EFFICIENT VIRTUAL FUNCTION CALLS FOR COMPILED/INTERPRETED ENVIRONMENTS

ABSTRACT

Virtual function calls in hybrid compiled and interpreted computer programming environments are carried out efficiently by dual virtual function tables. Each class object generated is provided with a compiled virtual function table and an interpreted virtual function table. Each table is symmetrically structured and contiguous with the class object. Calls from an interpreted function access the interpreted virtual function table. Entries in that table point to function data structures which provide for the interpretation of the called function, or for transfer to execution of a compiled version of the called function. Calls from a compiled function access the compiled virtual function table. Entries in the compiled virtual function table point to either executable code representing the called function, or to transition code for transition to the interpreter to interpret the called function.